

What is claimed is:

1. A method for making dual damascene, comprising:
  - providing a substrate having a dielectric layer;
  - 5 forming a photo-resist layer having a dual damascene contact window pattern;
  - removing a portion of the dielectric layer, and forming a dual damascene contact window in the dielectric layer, wherein the dual damascene contact window makes a portion of the substrate exposed;
  - removing the photo-resist layer;
  - 10 forming a liner layer over a surface of the dielectric layer; and
  - forming a conductive layer over the liner layer.
2. The method for making dual damascene according to claim 1, wherein the method for forming the photo-resist layer comprises:
  - 15 forming a first photo-resist layer, and proceeding with an exposure step;
  - forming a second photo-resist layer over the first photo-resist layer, and
  - proceeding with the other exposure step; and
  - proceeding with a development step.
- 20 3. The method for making dual damascene according to claim 2, wherein the method for forming the photo-resist layer further comprises proceeding with a hard bake step after the development step.

4. The method for making dual damascene according to claim 2, wherein the method for forming the first photo-resist layer and the second photo-resist layer comprises coating a negative photo-resist.

5       5. The method for making dual damascene according to claim 4, wherein the method for forming the first photo-resist layer and the second photo-resist layer further comprises proceeding with a soft bake step after coating the negative photo-resist.

10      6. The method for making dual damascene according to claim 1, wherein the method for forming the photo-resist layer comprises:

          forming a first photo-resist layer, and proceeding with an exposure step;  
          proceeding with a development step, and exposing a portion of the dielectric layer;

15      forming a second photo-resist layer over the first photo-resist layer, and proceeding with the other exposure step;

          proceeding with a development step, and exposing a portion of the dielectric layer and the first photo-resist layer; and

          proceeding with a development step.

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7. The method for making dual damascene according to claim 6, wherein the method for forming the photo-resist layer further comprises proceeding with a hard bake step after the development step.

8. The method for making dual damascene according to claim 6, wherein the method for forming the first photo-resist layer and the second photo-resist layer comprises coating a negative photo-resist.

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9. The method for making dual damascene according to claim 6, wherein the method for forming the first photo-resist layer and the second photo-resist layer further comprises proceeding with a soft bake step after coating the negative photo-resist.

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10. The method for making dual damascene according to claim 1, wherein the method further comprises forming a metal plug simultaneously.

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11. The method for making dual damascene according to claim 1, wherein the method for forming the metal plug comprises:

forming a photo-resist having a metal plug contact window pattern;  
removing a portion of the dielectric layer, and forming a metal plug contact window; and  
forming a conductive layer to be filled in the metal plug contact window.

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12. The method for making dual damascene according to claim 1, wherein the method further comprises forming an interconnect simultaneously.

13. The method for making dual damascene according to claim 12, wherein the method for forming the interconnect comprises:

forming a photo-layer having an interconnect pattern;

removing a portion of the dielectric layer, and forming an interconnect trench;

5 and

forming a conductive layer to be filled in the interconnect trench.

14. A method for forming a photo-resist layer, comprising

forming a first photo-resist layer, and proceeding with an exposure step;

10 forming a second photo-resist layer over the first photo-resist layer, and proceeding with the other exposure step; and

proceeding with a development step.

15. The method for forming the photo-resist layer according to claim 14,

15 wherein the method for forming the photo-resist layer further comprises proceeding with a hard bake step after the development step.

16. The method for forming the photo-resist layer according to claim 14,

wherein the method for forming the first photo-resist layer and the second  
20 photo-resist layer comprises coating a negative photo-resist.

17. The method for forming the photo-resist layer according to claim 14,  
wherein the method for forming the first photo-resist layer and the second

photo-resist layer further comprises proceeding with a soft bake step after coating the negative photo-resist.